

Verfahren und Vorrichtung zum Transport einer Last

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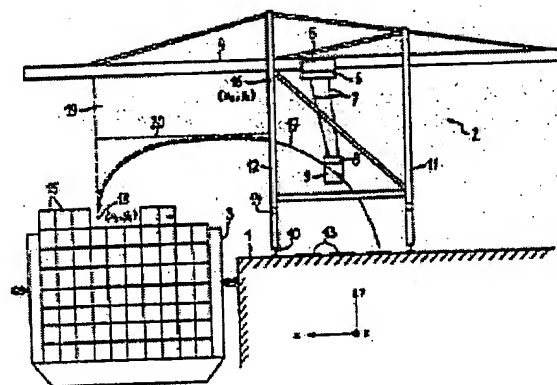
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Abstract of DE19502421

In prior art processes for transporting a load using a crane from a starting position over obstacles to a target position, the transport process may be optionally manually or automatically controlled. To permit the secure automatic transport of a load without collisions by simple means, the transport movement within a predetermined area with unknown or changing obstacles (15) with the transport process manually controlled is recorded and used to find a free transport region (19); the automatic control of the transport process in the predetermined area is limited to the free transport region (19) found.





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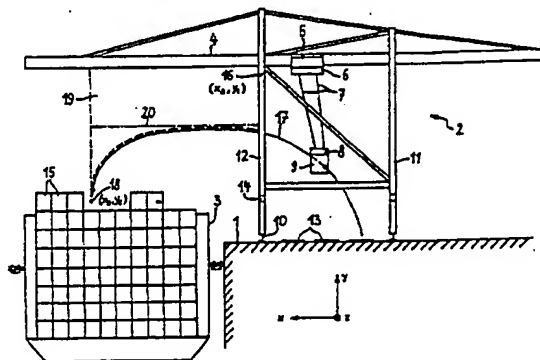
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⑤⑥ Entgegenhaltungen:
DE 40 05 066 A1
DE 38 16 988 A1
DE 21 09 784 A1

Prüfungsantrag gem. § 44 PatG ist gestellt

⑤④ Verfahren und Vorrichtung zum Transport einer Last

⑤⑦ Bei bekannten Verfahren zum Transport einer Last mittels eines Krans von einer Startposition über Hindernisse hinweg zu einer Zielposition kann die Steuerung des Transportvorganges wahlweise manuell oder automatisch erfolgen. Um mit einfachen Mitteln einen sicheren, kollisionsfreien automatischen Lasttransport zu ermöglichen, wird innerhalb eines vorgegebenen Bereichs mit unbekannten oder wechselnden Hindernissen (15) bei manueller Steuerung des Transportvorganges die dabei ausgeführte Transportbewegung (17) erfaßt und zur Ermittlung einer freien Transportzone (19) herangezogen; die automatische Steuerung des Transportvorganges in dem vorgegebenen Bereich ist auf die ermittelte freie Transportzone (19) beschränkt.



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Jib guidance method for a crane with a rocking jib

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Inventor: FRANZEN HERMANN (DE); KROELL JOACHIM (DE); AHMADIAN MOHAMMAD DR ING (DE)
Applicant: MANNESMANN AG (DE)
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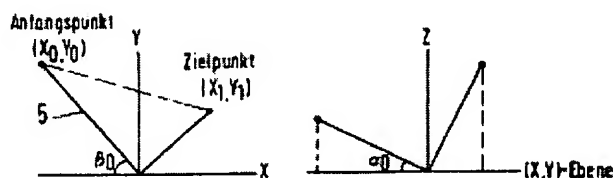
Abstract not available for DE19509734

Abstract of corresponding document: EP0732299

A so-called luffing crane of the type used around docks and ports has a main support arm A5U that can be swung in a horizontal arc about a centre point and can also be tilted in a vertical plane. In moving a load from a ship A4U to dockside A3U both motions are required with the load following an arc A10U in 3D space. The relationship between the angular position in the horizontal plane and that in the vertical plane is defined by a trigonometric relationship and this is used in a computer control algorithm to achieve a path minimising loading on the crane.

$$\alpha(t) = \text{Arc cos} \left(\frac{\cos \alpha \cdot \sin \beta_0 - m \cdot \cos \alpha \cdot \cos \beta_0}{\sin \beta(t) - m \cdot \cos \beta(t)} \right)$$

Fig.2



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